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ABSTRACT

Occasionally novice evaluators of educational products do not recognize the full scope of their jobs and may feel that there isn't much to do because a product prototype won't be ready for some time. This brief dialogue attempts to illustrate that there are many things an evaluator can do before he or she sees a product--perhaps even too much. (Author/MV)

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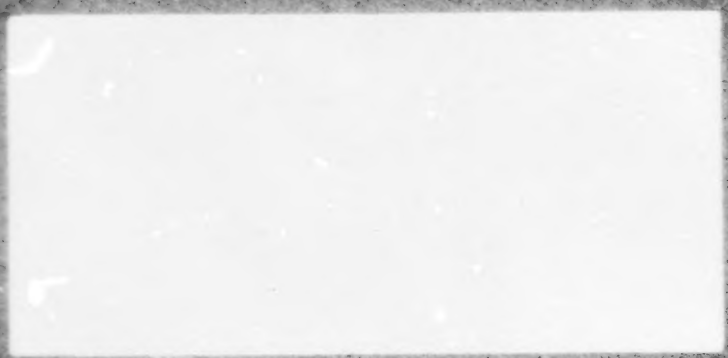

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No. 6

Pre-Product Evaluation: What to do While Waiting for the Product

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Northwest Regional Educational Laboratory

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Preface

Occasionally novice evaluators of educational products do not recognize the full scope of their jobs and may be heard to say "...well, there isn't much to do because we won't have a product prototype ready for some time." The brief dialogue that follows attempts to illustrate that there are a few things an evaluator can do before he sees a product--perhaps even too much.

PRE-PRODUCT EVALUATION:

WHAT TO DO WHILE WAITING FOR THE PRODUCT

Eve: Hi, Al, how are you doing on your new evaluation job? Do you like it?

Al: Yeh; it's really fun. The developers I work with are really nice people and my job is very easy so far. They won't even have a product to test for the next six months so right now I'm spending most of my time helping with development. Occasionally I get a little bored, but all in all it's pretty interesting and I'll start some evaluation work in a few months.

Eve: That's strange because my first six months here were among my busiest.

Al: Why, what did you find to do?

Eve: Well, there was a lot of preparation work and then planning to do. I was also providing a lot of information to the developers and also, of course, actually doing some evaluation studies.

Al: But how could you do any evaluations without a product?

Eve: Oh, there are several things that may need to be evaluated before you start looking at the actual product. For example, you often need to look at the evidence that a strong need exists for the product that helps to justify its development. And sometimes you evaluate the adequacy of the goals being developed for the product. You might also evaluate the congruence between the goals and needs and the product as it evolves.

Al: I have been collecting some information for the developers to help them write a needs statement and did comment on some of their goal statements that seemed a bit idealistic and vague. But that didn't take much time.

Eve: In my case I found it important not only to help the developers collect information about their goals and the need for the product, but also to actually conduct an evaluation study of both the need claims being made for the system and the worthwhileness of the goals. In one case I used a lot of outside consultant help in reviewing the goals and objectives statements, but both times submitted a formal memo to the developers and had some meetings to discuss the results.

Al: Didn't the developers feel you were just going over old ground? After all, the funding agency bought the needs and goals when they doled out the money.

Eve: Somewhat, but I explained that their work was probably going to be subjected to this kind of review later and that I felt it was my responsibility to give them a foretaste of that and help them revise their work now when it was probably easiest. I want them to turn out the best possible product, and they may not be able to do that if they don't develop a product that has defensible goals and meets some important educational needs. To a large extent, the funding agency had bought intents, but now I want to help the development staff take a look at how costly and successful the development effort is likely to be.

Al: Well, I suppose you could point out that the product would be more expensive if it required costly media or skilled trainers, but it sounds as though you are almost being a manager.

Eve: Not really, just providing feedback and helping the developers chart the progress of their work. Although some evaluators I know have helped evaluate the actual management of the product development effort.

Al: Why would they bother to do that?

Eve: Well, administrators sometimes want additional information on how well the work is being managed. An evaluation of management activities might give some useful information on whether the work is meeting deadlines, what activities are slowing down progress, and where the work is really staying on target. For example, you might list all report and product deadlines and indicate what work is not on schedule or keep a log of how much time is spent on budgeting or editing - maybe the crew needs to hire a budget manager or technical writer.

Al: So you just sort of provide data to program managers to help keep things going in the right direction and as efficiently as possible, huh?

Eve: Right. Aside from that kind of evaluation, I spent much of my time evaluating and providing information to developers, program management, and interested persons in the field on product specifications.

Al: You mean you evaluated the description of the product that appeared in the funding contract? That doesn't seem to make any sense to me - why waste your time doing that?

Eve: No, I reviewed and had others review the specifications for the product as they were created and revised by the developers. This gave the developers continual feedback for revising and shaping the product. Eva Baker, in the Second Handbook of Research on Teaching[1] has a good chapter on product development. She talks about the initial stages of it as involving the specification of instructional outcomes, the identification of skills required to get to those outcomes and then the designing of strategies for teaching the skills. The product specifications include descriptions of the responses desired, content specifications, performance standards and group performance levels wanted, and so on. These specifications help the developers delimit the attributes of the intended product and promote efficient instruction while sometimes providing a basis for evaluating the product later.

Al: Well how did you actually evaluate the specifications?

Eve: They were reviewed with respect to how feasible and realistic they were in terms of past developmental efforts elsewhere and relevant evidence in the research literature.

Al: But I didn't think there was much, if any, research that would tell you how best to develop a product.

Eve: That's true. Many writers discuss what they think development should look like and, although there's not much research, it's helpful to be aware of the approaches they suggest. Sometimes a funding agency will prefer a particular style of development and even use it as a criterion in evaluating the product.

Al: Well, how did you review the product descriptions and development style?

Eve: I was concerned with whether I, or anyone, would be able to evaluate the product later on and give the developers good measurement information on how close they were coming to meeting their objectives. Of course, I didn't actually do all of the reviewing myself, the developers and I chose some content experts, potential users, and people who had developed similar products in the past, to help us. I was just responsible for initiating it and seeing that it got done.

Al: I guess I don't know much about how you'd evaluate needs and goals and product specifications. Besides, the developers I work with don't use objectives and specifications very much. They have a much more intuitive, free-wheeling style of development.

Eve: Yes, but they probably have some mechanism for narrowing their work down to a specific product outline, and you could provide feedback on how closely it matches past promises and future hopes. They may need to change some of their initial plans, and you could provide information to help them make the right decisions. Anyway, Eva Baker's chapter is one place to start looking for ideas, and there are two extensive works by Sanders and Cunningham[2, 3] that review a whole set of techniques for conducting evaluation work like this during the formative stages of product development. They talk about expert reviews, logical analyses, literature reviews, comparative analyses and surveys, and questionnaire data. You might also take a look at Bob Stake's[4] comprehensive article on objectives and judgment data. He discusses different kinds of judgment data, how to collect and use and report them. I think you'll find those papers useful later on in your evaluation, too - when you've got a product.

Al: I have seen Stake's paper and was trying to use it to help me review some of the developers' objectives, but they seem to have a lot more objectives than I can find written down anywhere and what is written just doesn't seem to get at the heart of what they're trying to do.

Eve: I know. I had the same problem when I first started. Actually, I found several different ways to get at implicit objectives like having reviewers infer them from theory papers and so on. Of course you've got to decide how important stated objectives are to the actual development process so you don't spend too much or too little time on them.

Al: Well, I probably won't be doing much more than I have already. I'm glad to have it done.

Eve: It may really never actually be done. Mike Scriven[5] says that you probably should re-evaluate the product goals several times over the course of the development of the product to assess the project's chances of achieving them given the stage of their current activities each time. He suggests re-analyzing the goals to point out discrepancies between the goals of different groups, between the project's goals and its achievements, between the goals of the project and the funding agency, and between the goals as spelled out in the initial proposal and as later operationalized in the project.

Al: That sounds like an awful lot of work.

Eve: One easy way I have found to do it is to make good use of Scriven's emphasis on critical competitors - you know, the products a user might buy instead of yours. Even before we had a product, I started

looking for critical competitors. By keeping the developers aware of what potential competitors might be, I was able to help them recognize what others were and were not capable of accomplishing. That way they could be clear if particular objectives were high-risk ones - like there being some strong chance they might fail to reach them. Attending to potential competitors also helped me to review and evaluate their product specifications more easily. I could then evaluate their work with respect to what others were finding was feasible to produce and saleable on the market, what implementation problems similar packages were having, and so on. This also kept me better aware of when new products come on the market and changed our chances for success or when similar products were being buffeted by political winds suggesting possible modifications in our own product. It took some time, though.

Al: I guess I can see why you were so busy during the first few months. I haven't been doing much of this kind of work or even thinking about it. Instead, I have started writing evaluation designs for testing the product. I have reviewed some of the evaluation models in the Worthen and Sanders book[6] and have decided we need a good decision oriented design with as much experimental control as we can get.

Eve: That book does have a pretty complete assortment of evaluation models, but I'd be reluctant to just review it and choose one, especially at this early stage of the development of your product.

Al: Why? What's wrong with that?

Eve: Well, the shape of your product, and maybe even the development effort itself probably is still pretty undefined at this point. Bob Stake[7] has cautioned against getting an early preconceived notion of success and letting a few objectives or some apparently relevant instrumentation distract you from the things that most concern the people involved in the process. He suggests what he calls responsive evaluation[8] which orients you to program activities more than intents, with considerable attention paid to responding to audience requirements and representing differing value perspectives relevant to an evaluation of the product. Or perhaps maybe you should try some goal free evaluation like Scriven[9] suggests where you take a look at possible product outcomes before knowing much about product goals and objectives. You might try that for a while before you get too deeply involved in the project itself. You can't do it later because you'll be too involved with the developer's intents by that time. This way, if you do decide to have someone do a goal free evaluation on your project further down the line, you'll probably be better able to make good use of the work since you will have been through the same thing yourself. Besides, you might get some unpredictable

and useful insights now that could really help the developers at a time when they have the most latitude in their work.

Al: That sounds OK, but I think our funding agent is going to want hard data and probably objectives-based evaluation with pretty conventional experimental designs.

Eve: That may well be, but right now you probably have the most leeway you're going to have and at this early stage you need to retain considerable flexibility and monitor changes of direction both internal and external to the project. Your assessment of what's needed may be accurate now, but if you get locked in too early, conditions could change and you'd end up with an inappropriate, or at least unsatisfying, design for some people. You should probably consider a goal free or responsive or transactional approach for an early stage of evaluation since they allow you to retain considerable flexibility in your work. If, in addition, you keep attuned to the changing political winds, project intents, and contractual obligations, then you can allow your evaluation work to mature with the changing program and evaluation context. Obviously at some point you may need to begin serious narrowing and defining of your evaluation work and maybe you shouldn't wait too long to begin that since it does take some time. Perhaps you will need an experimental design or objectives-based orientation, but perhaps not. My point is that it is easier to adopt that from some of these other orientations, such as goal free, responsive, or transactional than it is to pull back from an objectives-based design to a more open, less preordinant procedure.

Al: That sounds like good advice, but I don't know if it would work for me. But what's transactional evaluation - I don't think I've ever heard of it.

Eve: Well, one of the big pluses of goal free evaluation is that it allows you to get a look at a product without being biased by knowledge of what intents developers had in mind in creating it. On the other hand, responsive evaluation can be employed when you are very concerned about honoring different value perspectives and being able to communicate evaluation activities and results to various divergent audiences. Communication is probably one of its strong suits. Transactional evaluation is directed not so much to assessing the instructional impact of the product as to evaluating the organizational change resulting from innovation. It focuses more on organizational dysfunctions that can occur as a result of innovation-induced threats to role stability. Robert Rippey is probably the best known proponent of transactional evaluation.[10, 11] You might use some of its techniques when you are not only concerned about providing information on product improvement, but also need information about implementing your product in the schools and the resistance or problems

you are likely to have. It helps you to study the dynamics of implementing your product in the schools. Doesn't the product you work on constitute a substantial intervention in the schools?

Al: Yes, it's going to require the continual involvement of teachers and administrators, as well as some community groups.

Eve: You might consider trying transactional evaluation techniques then, at least for a while. You might be able to maintain some of them at low cost even later on if you do decide to go to an objectives-based product centered approach. But I suppose you are already spending a lot of your time in the field.

Al: No, not really. We won't be doing any testing for quite a while yet.

Eve: Well, I hope you don't wait too long like I did.

Al: Why, what do you mean?

Eve: Sometimes it takes quite a while to set up testing sites and establish rapport with the schools. Gaining entry into a school system and establishing a good testing environment can be an involved process, and when I first started I knew very little about it.

Al: I really don't know anything about it either; could you give me some help?

Eve: Sure, we'll need to spend some time later on talking about it, but for now you might start by reading some of the work by Clasen, Miller, and Conry[12] who studied attitudes of researchers and administrators concerning gaining entry into school systems. They list six different aspects of gaining access to schools which you might consider. You might also look at a paper by Manohan[13] who surveyed official policies for data collection and research in large city school systems all over the U. S. He summarized the usual requirements for entry and the problems that frequently concern administrators.

Al: Good, that should get me started.

Eve: Oh, there is another good paper by Hayman[14] that just discusses some of the basics of establishing good rapport in schools.

Al: I probably have some extra time to work on this since we won't be needing to field test for some time.

Eve: You might consider going out to the schools long before that though. Have you read the CSE monograph by Wells Hively?[15]

Al: No, why?

Eve: He talks about getting feedback early from people like teachers and administrators with respect to their ideas on the feasibility of putting products in the classrooms, staffing problems, teaching problems, and so on. You can do this informally during the initial stages of product development and give some good feedback to developers on product specifications. This would augment the other reviews we have already talked about, while establishing good rapport with the school people at the same time. Hively points out that this can help you later when the school staff can give you good anecdotal information on side effects and product impact which you can use as a partial basis for developing sensitive instrumentation. They can also give you feedback on bits and pieces of the product as it's being created - like Lewy[16] suggests. So you might get out into the schools as soon as is practical - it also helps you define the context of the evaluation.

Al: You've used that term "evaluation context" before. What do you mean by it?

Eve: Well, there are at least two different sets of activities that begin to set what I call the "context of the evaluation" and I think they should be conducted before, or at least at the same time as, doing pre-product evaluation studies, setting up field relations, and beginning to choose evaluation paradigms to follow. The first set of activities involves beginning to clarify some of the expectations for the evaluation work held by both internal and external groups to the project. For example, on many projects, evaluators don't spend all their time evaluating. They are expected to perhaps do some administrative work or do data analysis for development or dissemination purposes even though it may have no actual connection to their evaluation work. This is understandable - developers don't spend all their time developing either. But an evaluator may appear to have a lot of free time on his hands in early development stages since he has no product to evaluate, and his time may be drained away to do tasks extraneous to his work. Without some understanding within the project, then, as to how roles are being defined and played, an evaluator may find himself perhaps being held accountable for aspects of the development work over which he has no control or to which he was only providing collegial input. Perhaps some of the developers are doing a great deal of field relations work and would resent an evaluator's intrusion in this area. Some clarification of why the evaluator needs to be in the field may be needed. This clarification of expectations at an early stage can greatly facilitate a smooth development and evaluation effort.

Outside interests such as professional groups, specific clients, or the funding agency may also have certain expectations about the nature of the evaluation to be conducted. Sometimes these expectations are not clearly stated and have to be inferred.[17] Other times there are specific criteria available that indicate how the evaluation work is going to be assessed.

Al: You mean like the criteria for meta-evaluation in the PDK book on evaluation?[18]

Eve: Yes, if they are particularly relevant in your case, or at least there are people who think they are. It's those kinds of things which help you determine what criteria are going to be used to evaluate the nature and quality of your evaluation work. They help you shape your work to be credible, and, therefore, perhaps more useful.

Al: What about Scriven's Product Checklist?[19]

Eve: Yes, that's the kind of thing I mean. It has been used by federal funding agencies as a general guide for evaluating the adequacy of product evaluation work - you can see its influence in recent checklists. These documents not only help you judge what kinds of evaluation work will have some impact outside the project, but can serve as a planning aid, too. Some people have suggested that you might just keep folders on each of the items included in the checklists such as need, side effects, costs, educational significance, effectiveness, ease of implementation, and so on, and encourage people like developers, teachers, and field personnel to send you anything that seems appropriate. Thus when you need a quick statement of all information to date on a particular item you could pull from your own work and the file to produce a fast report. It could keep you flexible and current.

Al: It also might help you just collect a lot of irrelevant, poor quality information.

Eve: That's true, it needs to be done carefully and with some thought.

Al: Other than clarifying expectations, how else do you determine your "evaluation context?"

Eve: You can also define the context of your evaluation by addressing some of the many evaluation decisions you have to make. Decisions like: How do I determine the characteristics of the target groups of interest, including their entry and exit characteristics? How can I begin to document and describe the environment where the instructional training is to take place? What potential side effect variables

and inhibiting or facilitating constraints on the instructions should I begin to look at? How do I begin to contact relevant audiences and learn of their information needs, timelines for information, and most appropriate reporting mechanisms for them? How do I determine what criteria are likely to be relevant in judging the worth of the product, who holds such criteria and how do I operationalize and measure along their value dimensions? How do I begin identifying which information will be acceptable to which audiences? As these questions get more specific, of course, you frequently are back to the stage of working with developers in looking at the product specifications and items. Sometimes you go by logical analysis; other times you use empirical trial and error. But, as you work through these questions and decisions, you begin to define the nature, constraints, and focus of the evaluation, that is, you put it in an evaluation context. This enables you to go on to develop management and budget plans, reporting and data-gathering timelines, and to conduct more formal evaluation studies, if appropriate, using specific models, and so on. Determining the context is probably the hardest part of the job and it usually needs to be done before the product gets too far developed, when you have to start tackling sampling, instrumentation, and data analysis problems. Also, if you have done a good job initially, it's easier to detect when the context changes, as could easily happen if you are involved in a long project.

Al: Boy, I can sure see now how you could keep busy until the product gets ready to test! In fact, I'm sure now that I don't have enough time left to do everything that needs to be done before beginning to test the product. Thanks, Eve - I think. I feel swamped now with work. I almost wish I hadn't stopped by. It was a lot easier just thinking that all I had to do was wait for the product.

Eve: Probably the first thing you should do now is develop some priorities. I don't know of any evaluator who completed all this work before a product came along - most of us are just happy to get a good part of it under control.

Al: I'd better take a good look at how much time and money I can spend on some of these tasks and start to work on the most important ones right away.

Eve: Don't forget to talk to your developers, project managers, funding agent and even users about some of these tasks. Their input can be useful in helping you set your priorities too.

Al: OK, thanks for all the help, Eve.

Eve: Any time, stop by again when you get a free minute.

Al: Sure.

Postscript

Thus there appear to be many potentially profitable ways for an evaluator to spend his time even before he begins to directly assess the quality of an instructional product. Although probably no evaluator ever has the time and resources to do all the things mentioned above, they may be worth considering as one begins to evaluate products which are in the initial stages of development.

Bibliography

1 Baker, E. L. The technology of instructional development. In R. M. W. Travers (ed.), Second Handbook of Research on Teaching. Chicago: Rand McNally. 1973, pp. 245-285.

2 Sanders, J. R., & Cunningham, D. J. A structure for formative evaluation in product development. Review of Educational Research, Spring 1973, 43(2), 217-236.

3 Sanders, J. R., & Cunningham, D. J. Formative evaluation: Selecting techniques and procedures. In G. D. Borich (ed.), Evaluating Educational Programs and Products. Englewood Cliffs, New Jersey: Educational Technology Publications. 1974.

4 Stake, R. E. Objectives, priorities, and other judgment data. Review of Educational Research, April 1970, 40(2).

5 Scriven, M. The evaluation of educational goals, instructional procedures and outcomes or the iceman cometh. Berkeley: University of California, undated, pp. 37-38. (mimeo)

6 Worthen, B. R., & Sanders, J. R. Educational Evaluation: Theory and Practice. Worthington, Ohio: Charles A. Jones Publishing. 1973.

7 Stake, R. E. To evaluate an arts program. CIRCE, University of Illinois. (mimeo)

8 Stake, R. E. Responsive Evaluation. Champaign/Urbana: University of Illinois. December 1972. (mimeo)

9 Scriven, M. Goal free evaluation. In Ernest R. House (ed.), School Evaluation: The Politics and Process. Berkeley: McCutchan. 1973.

10 Rippey, R. Can evaluation research be integral to innovation? Curriculum Theory Network Monograph Supplement. In Joel Weiss (ed.), Curriculum Evaluation: Potentiality and Reality. Ontario Institute for Studies in Education. 1972, pp. 45-58.

11 Rippey, R. Studies in Transactional Evaluation. Berkeley: McCutchan. 1973.

12 Clasen, R. E., Miller, D. M. & Conry, R. F. Access to do research in public schools. Journal of Experimental Education, Fall 1969, 38(1), 16-29.

[13] Monahan, W. G. Data accessibility: Policies and organizational structures in big city schools. Paper presented at the American Educational Research Association, 1968. As reprinted in "Educational research policies of school districts nationwide", John C. Gowan, Ezra Wyeth, California Journal of Educational Research, Nov. 1969, 20(5), 204-212.

[14] Hayman, J. L., Jr. Some problems to be faced in conducting research in school systems. International Reading Association Conference Proceedings, April 1968, 13(1), 501-507.

[15] Hively, W., Maxwell, G., Rabehl, G., Sension, D., & Lundin, S. Domain-Referenced Curriculum Evaluation. Monograph No. 1. Los Angeles: Center for the Study of Evaluation, UCLA. 1973.

[16] Lewy, A. Utilizing experts' judgment in the process of curriculum evaluation. Evaluation Report No. 87. Center for the Study of Evaluation. July 1973.

[17] Smith, N. L., & Murray, S. L. The status of research on models of product development and evaluation. Educational Technology, in press.

[18] Stufflebeam, D. L., Foley, W. J., Gephart, W. J., Guba, E. G., Hammond, R. L., Merriman, H. O., & Provus, M. M. Educational Evaluation and Decision-Making in Education. Itasca, Ill.: Peacock. 1971.

[19] Scriven, M. Untitled, 13th Version of Educational Product Checklist, undated. (mimeo)

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